HYDROGEN SULFIDE

PINC NO.	PINC	Authority	Enforcement Action
H-100	Is a copy of the approved H_2S Contingency Plan available in the field area until operations are completed?	67(h)(1)	W/S
H-101	Are at least two safe briefing areas established?	67(h)(1)(iv)	S
H-102	Are all personnel informed of the hazards of H_2S and of SO_2 resulting from burning H_2S and instructed in the provisions for personnel safety contained in the H_2S Contingency Plan?	67(h)(2)(i)	C
H-103	Are all personnel instructed in the use of safety equipment which they may be required to use?	67(h)(2)(ii)	C
H-104	Are all personnel informed of the location of protective-breathing equipment, H_2S detectors and alarms, ventilation equipment, briefing areas, warning systems, evacuation procedures, and the direction of the prevailing winds?	67(h)(2)(iii)	C
H-105	Are all personnel informed of the restrictions and corrective measures concerning beards, spectacles, and contact lenses in conformance with ANSI Z88.2?	67(h)(2)(iv)	C
H-106	Is safety information prominently posted on the facility?	67(h)(2)(v)	W
H-107	Is safety information prominently posted on vessels serving the facility?	67(h)(2)(v)	W
H-108	Does each person receive a training session upon arrival at the facility?	67(h)(2)(vi)	W
H-109	Does each person participate in a drill within 24 hours after duty begins?	67(h)(2)(vi)	W
H-110	Has a weekly H_2S drill and training session been held?	67(h)(2)(vi)	W
H-111	Are records of the attendance at the weekly drills and training sessions maintained at the facility?	67(h)(2)(vi)	W
H-112	Have all personnel been instructed in basic first-aid procedures applicable to victims of	67(h)(2)(vii)	C

	H_2S exposure?		
	Is the following equipment readily available for use:		
H-113	A first-aid kit of appropriate size and content for the number of personnel on the facility?	67(h)(2)(vii)	W
H-114	Resuscitators complete with face masks, oxygen bottles, and spare oxygen bottles?	67(h)(2)(vii) 67(h)(7)(v)	S
H-115	At least one litter or an equivalent device?	67(h)(2)(vii)	W
H-116	Are personnel informed of the meaning of all warning signals?	67(h)(2)(viii)	C
H-117	Is wind-direction equipment installed?	67(h)(3)(i)	S
H-118	Are operational danger signs and rectangular red flags available for use?	67(h)(3)(ii)	W
H-119	Are a public address system and a siren, horn, or other similar warning devices with a unique sound used only for H_2S warnings installed?	67(h)(4)	S
H-120	Does the facility have an H_2S-detection and H_2S-monitoring system which activates audible and visual alarms when the atmospheric concentration reaches 20 ppm and is capable of sensing a minimum of 10 ppm of H_2S with sensing points at the bell nipple, shale shaker, mud pit area, driller's station, living quarters, and other areas where H_2S might accumulate?	67(h)(5)(i)	S
H-126	Is the H_2S-detection and H_2S-monitoring equipment calibrated?	67(h)(5)(ii)	S
H-127	Are H_2S-detection ampoules or any other comparable H_2S-monitoring devices available for use by all personnel?	67(h)(5)(iii)	S
H-128	Are pressure-demand-type respirators immediately accessible to all personnel on the facility?	67(h)(6)(i)	S
H-130	Is protective-breathing equipment stored at locations that are quickly and easily accessible to all personnel?	67(h)(6)(ii)	S
H-131	Are all breathing-air bottles labeled as containing breathing-quality air for human use?	67(h)(6)(iii)	C\S
H-132	Do vessels attendant to facilities carry appropriate protective-breathing equipment for each crew member?	67(h)(6)(iv)	C

H-133	Do helicopters attendant to facilities operating in known H_2S zones carry pressure-demand-type respirators for the flight crew?	67(h)(6)(v)	C
H-134	Do facilities operating in unknown H_2S zones store pressure-demand-type respirators immediately accessible to the heliport for the use of flight crew?	67(h)(6)(v)	C
H-135	Are all members of flight crew trained in the use of the particular type(s) of respirator equipment made available?	67(h)(6)(v)	C
H-136	Is a system of breathing-air manifolds, hoses, and masks provided on the facility and in the briefing areas?	67(h)(6)(vi)	S
H-137	Is a cascade air-bottle system provided for the breathing-air manifolds and to refill individual protective-breathing apparatus bottles?	67(h)(6)(vi)	S
H-138	If the cascade air-bottle system is recharged by a high-pressure compressor suitable for providing breathing-quality air, is the compressor suction located in an uncontaminated atmosphere?	67(h)(6)(vi)	S
	Is the following personnel-safety equipment available:		
H-139	Portable H_2S detectors?	67(h)(7)(i)	S
H-140	Retrieval ropes with safety harnesses to retrieve incapacitated personnel from contaminated areas?	67(h)(7)(ii)	W
H-141	Chalkboards and/or note pads for communication purposes located on the rig floor, shale-shaker area, the cement-pump rooms, well-bay areas, production processing equipment area, gas compressor area, and pipeline-pump area?	67(h)(7)(iii)	W
H-142	Bull horns and flashing lights?	67(h)(7)(iv)	S
H-144	Are all ventilation devices explosion-proof and situated in areas where H_2S or SO_2 may accumulate?	67(h)(8)	C/S
H-145	Are movable, multidirectional ventilation devices capable of dispersing H_2S or SO_2 vapors away from working personnel provided in work areas?	67(h)(8)	C

H-146	If water-based, well-control fluids are used, and if H_2S is detected by air sensors, has the Garrett-Gas-Train test or comparable test techniques for soluble sulfides been conducted?	67(i)(2)	W
H-147	Are sufficient quantities of additives for the control of H_2S, well-control fluid pH, and corrosion of equipment maintained on the facility if operating in zones known to contain H_2S?	67(i)(3)	S
H-148	Prior to drilling into a known H_2S-bearing zone, are scavengers for circulation throughout the system available on the facility?	67(i)(3)(i)	S
H-149	Is the pH of water-based well-control fluids maintained at a minimum of 10.0 prior to drilling into and during drilling, completion, or workover operations in a known H_2S zone?	67(i)(3)(ii)	W
H-150	Is a degasser and a closed flare system installed to collect and burn gases removed from well-control fluids when operating in a zone known to contain H_2S?	67(i)(4)	W
H-151	Is a safety meeting conducted for all personnel who will be on the facility prior to well testing in a zone known to contain H_2S?	67(k)(1)	C
H-152	Are all gases produced during testing burned through the flare system when testing in a zone known to contain H_2S?	67(k)(3)	S
H-153	Are flare line outlets located on the downwind side and as far from the facility as is feasible when operating in a known H_2S zone?	67(m)(7)	S
H-154	When operating in a known H_2S zone, is the flare outlet equipped with an automatic ignition system including a pilot-light gas source or an equivalent system?	67(m)(7)	S
H-155	When operating in a known H_2S zone, is an alternate method available for igniting the flare?	67(m)(7)	W
H-156	When operating in a known H_2S zone, are all vents from production process equipment, tanks, relief valves, burst plates, and similar devices piped to the flare system used for H_2S?	67(m)(7)	S
H-157	When operating in a known H_2S zone, is gas containing H_2S not used for instrument or fuel gas unless otherwise approved by the District Supervisor?	67(m)(10)	S

H-158	When operating in a known H_2S zone, is produced water disposed of by means other than subsurface injection treated for removal of H_2S?	67(m)(13)	S
H-159	When operating in a known H_2S zone, are H_2S levels continuously monitored in the work areas when pulling a wet string of drill pipe, circulating bottoms-up, cementing, logging, or circulating to condition well-control fluids?	67(m)(1)	W/S
H-160	When operating in a known H_2S zone, is protective breathing equipment worn by personnel in the work area at least 10 stands in advance of retrieving the core barrel during conventional coring operations?	67(m)(2)	W/S
H-161	When operating in a known H_2S zone, are all cores to be transported sealed and marked for the presence of H_2S?	67(m)(2)	W/S
H-162	When operating in a known H_2S zone, is well-control fluid in use for logging operations conditioned and treated to minimize the effect of H_2S on the logging equipment?	67(m)(3)	W/S
H-163	When operating in a known H_2S zone during stripping operations, are displaced well-control fluid returns monitored?	67(m)(4)	W/S
H-164	When operating in a known H_2S zone during stripping operations, is protective breathing equipment worn by personnel in the work area when the atmospheric concentration of H_2S reaches or exceed 20 ppm or if the well is under pressure?	67(m)(4)	W/S
H-165	When operating in a known H_2S zone, is protective breathing equipment worn by personnel in the work area prior to and sub-sequent to bottoms-up when circulating out a kick and during extended kill operations?	67(m)(5)	W/S
H-166	When operating in a known H_2S zone, is an effective means of monitoring and controlling corrosion caused by acid gases used in both the downhole and surface portions of a production system?	67(m)(8)	S
H-167	When operating in a known H_2S zone, are lubricators which may be exposed to fluids containing H_2S made of H_2S-resistant materials?	67(m)(9)	W/S

H-168	When operating in a known H_2S zone, are metals used for sensing lines and safety-control devices which are exposed to H_2S bearing fluids constructed of H_2S corrosion resistant materials or coated with appropriate materials so as to resist corrosion?	67(m)(11)	W/S
H-169	When operating in a known H_2S zone, are all seals which may be exposed to fluids containing H_2S made of H_2S-resistant material?	67(m)(12)	W/S